# Special FEBS Meeting on Cell Function and Differentiation

## Athens, Greece, 25-29 April 1982

The Greek National Committee for Biochemistry cordially invites all interested scientists to attend the Special FEBS Meeting in Athens, a city which has managed to blend tradition and culture with a modern way of life.

The Scientific Programme of the Special FEBS Meeting will consist of Symposia and associated Poster Presentation and Poster Discussion Sessions, in order to encourage maximum participation of all biochemists attending the Meeting.

The role of the Symposia Chairmen and Invited Speakers is to provide a survey of recent progress in specific subject areas. Ample time will also be allotted during each Symposium to participants to examine the posters, some of which will be selected by the Chairmen for more extended discussion among the Symposium audience.

Most of the Meeting sessions will be held at the Athens Hilton Hotel, a number of sessions will also take place in the meeting rooms of the nearby Caravel Hotel and the National Hellenic Research Foundation.

The following information is taken from the Second Announcement. In the Symposia, the names are those of the Organizers and Invited Speakers.

### *SCIENTIFIC PROGRAMME*

### *SYMPOSIA*

#### *S 1 Eukaryotic Gene Structure and Expression*

M Birnstiel – A Efstratiadis

Gene transfer and gene expression *(R Axel)*; Regulation of histone gene expression *(M Birnstiel)*; The control of a simple animal gene *(D Brown)*; Insulin-like genes *(A Efstratiadis)*; Expression of haemoglobin genes *(R Flavell)*; Multigene families encoding immunity *(L Hood)*; Organization and control of some *Drosophila* genes *(G Georgiev)*; Organization and expression of the developmentally regulated chorion gene families *(F Kafatos)*; Human globin gene expression *(T Maniatis)*; Nucleosome structure *(A Mirzabekov)*; The expression of genes transferred to plants via the TI plasmid *(J Schell)*; The heat shock response in *Drosophila* and other eukaryotes *(A Tissieres)*; Histones and cell differentiation *(R Tsanev)*; Globin gene expression and chromatin structure *(H Weintraub)*; The satellite-like structure of Balbiani Ring genes *(U Wobus)*; Studies on immunoglobulin genes *(H Zachau)*.

#### *S 2 "B" Cell Differentiation and Antibody Synthesis*

S Avrameas – A Coutinho

*... (H Ambrosius)*; *... (S Avrameas)*; Regulation of B-cell differentiation and antibody repertoire *(R Cazenave)*; B-cell differentiation and differentiation antigens *(A Coutinho)*; Insertion and/or secretion of immunoglobulins *(J Haimovitch)*; Antibody diversity as compared to B-cell diversity *(P Liacopoulos)*; *... (R Nezlin)*; What regulates the activity of immunoglobulin genes? *(D Perry)*; Somatic cell variants in the analysis of class switching and V region diversification *(K Rajewsky)*; Differentiation and C genes expression *(F Rougeon)*; Biochemistry of T-B cell collaboration *(A Schimpl)*; Commitment of V genes expression *(T Tonegawa)*; Biosynthesis, assembly and secretion of antibodies *(A Williamson)*.

#### *S 3 Erythroid Cell Differentiation*

V M Ingram – G M Maniatis

Differentiation block induced by avian erythroblastosis virus *(T Graf)*; Regulation of erythroid cell-specific gene expression *(P R Harrison)*; Control of erythroid differentiation in the Friend cell system *(D Housman)*; *... (N N Iscove)*; *... (G M Maniatis)*; The erythroid cell differentiation process in man: insights from studies in erythroid cultures *(T Papayannopoulou)*; Regulation of hemoglobin synthesis in ontogeny, or Mechanisms underlying Friend virus-induced erythroleukemias *(C Peschle)*; The role of lipoxygenase and ATP-dependent proteolysis in the maturation of the reticulocyte *(S M Rapoport)*; Processing of human β globin mRNA precursor in normal and thalassemic cells *(J Ross)*.

#### *S 4 Cell Separation and Characterization*

N Catsimpoolas – K Hanning

Ektacytometric analysis of red cell deformability *(M Bessis)*; Analytical gravity sedimentation analysis of cells *(N Catsimpoolas)*; Study of lymphocyte activation by analytical free-flow electrophoresis *(K Hanning)*; Sizing of cells by the electrical resistance pulse technique *(V Kachel)*; Isopycnic separation of cells by centrifugation in Percoll gradients *(H Pertoft)*; Separation of cells, nuclei and chromosomes at moderate G-forces *(A Tulp)*.

#### *S 5 Hormones and Cell Differentiation*

M Beato – G Schütz – C Sekeris

Regulation of gene expression by glucocorticoids in normal and tumor cells *(V Adler)*; Structure and regulation of expression of the growth hormone, ACTH and related genes *(J Baxter)*; Progesterone receptor *(M Beato)*; Estradiol receptor *(F Bresciani)*; Extragenomic effects of glucocorticoids *(D Kanazir)*; Structure and expression of ecdysteroids regulated genes in *Drosophila* larval fat body *(J Lepesant)*; Microtubule and brain development: regulation by thyroid hormones *(J Nunez)*; Estrogen regulation of the vitellogenin genes *(G Ryffel)*; *... (C Sekeris)*; *... (G Schütz)*; Glucocorticoid receptor interactions with the genome *(K Yamamoto)*; Ecdysteroid-genome interaction *(O Pongs)*.

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*S 6 Growth Factors and Cell Proliferation*

A R Maurer – D Stathakos

Platelet derived growth factors: structure and function *(H N Antoniades)*; Conformation and receptor-binding of polypeptide hormones and growth factors *(T L Blundell)*; Cellular rest as an active metabolic state *(O I Epifanora)*; Growth inhibitors in mammalian cells *(R W Holley)*; IGF: an important growth factor or an elusive golden fleece? *(R E Humbell)*; Correlation of RNA synthesis with the proliferation rate of cells as revealed by in vitro studies *(I Grummt)*; Biological effects of phorbol ester promoters in mouse skin *(F Marks)*; Regulation of granulocyte proliferation and differentiation by specific stimulators and inhibitors (chalones) *(A R Maurer)*; Intracellular events controlling the cell cycle *(A B Pardee)*; Control of growth and differentiation in normal and leukemic white blood cells *(L Sachs)*; Growth of cells in culture in relation to animal physiology *(G Sato)*; ... *(D Stathakos)*; Leucocyte mediators controlling tissue morphogenesis *(J H Wissler)*.

*S 7 Biogenesis of Energy Transducing Membranes*

G Akoyunoglou – I Ohad

Development, assembly and organization of the photosystem I and II units in the chloroplast of higher plants *(G Akoyunoglou)*; Chloroplast genes for the photosynthetic apparatus *(L Bogorad)*; On the diversity of mitochondrial genetic systems *(P Borst)*; Biosynthesis and differentiation of the photosynthetic apparatus of ***Rhodopseudomonas capsulata*** *(G Drews)*; Synthesis and metabolism of chloroplast membrane polypeptides *(M Edelman)*; Thylakoid polypeptide synthesis and assembly in wild type and mutant barley *(G Hoeyer Hansen)*; Mitochondrial biogenesis in higher plants *(C J Leaver)*; Development of photosystem II complex in algae *(I Ohad)*; Chloroplast genes of ***Chlamydomonas reinhardii*** *(J-D Rochaix)*; On the control of chloroplast development *(J A Schiff)*; Biosynthesis of components and their assembly to photosynthetic membranes in ***Scenedesmus*** *(H Senger)*; Application of the theory of the relations between pigments to the description of energy transfers at the early stages of thylakoid membrane greening *(P P Slonimski)*; Chloroplast tRNAs and aminoacyl-tRNA synthetases *(J-H Weil)*.

*S 8 Cell Differentiation and Function of Photosynthetic Microorganisms*

L Packer – G Papageorgiou

The heterocysts–vegetative cell relationship in cyanobacteria *(H Bothe)*; Nitrate assimilation by cyanobacteria *(M Guerrero)*; organization of the nitrogen fixation and glutamine synthetase genes in the cyanobacterium ***Anabaena*** *(R Haselkorn)*; Pathways of $H_2$ gas production and consumption by cyanobacteria: relationship to proton circulation pathways *(L Packer)*; Photosynthetic electron transport in cyanobacteria *(G Papageorgiou)*; Comparison of the supramolecular organization of membranes in photosynthetic organisms *(L A Staehelin)*; Organization and composition of cyanobacterial and rhodophycean phycobilisomes *(N Wehrmeyer)*; Structure and function of the light-harvesting phycobiliproteins from the cyanobacterium ***Mastigocladus laminosus*** *(H Zuber)*.

*S 9 Membrane and Protein Energetics*

P Mitchell – P Rentzepis

... *(A Afonyo)*; Evoked effects of cholesterol binding on biomembrane integral proteins *(S Alivisatos)*; Photoelectric conversion of solar energy in photosynthetic membranes *(A Borisov)*; ... *(B Chance)*; Osmoenzymology: the study of molecular machines *(P Mitchell)*; Energy transfer by redox proteins in mitochondria *(S Papa)*; Laser spectroscopy: a means for studying fast biological intermediates *(P Rentzepis)*; The photo-electrochemical coupling in the visual process *(H Stieve)*; Amplification in visual excitation *(L Stryer)*; Chemical approach to the structure and functioning of the mitochondrial and bacterial ATPases *(P Vignais)*; On the molecular mechanism in the functional membrane of photosynthesis *(H Witt)*.

*S 10 Liposomes as Model Membranes and in Cell Function*

*a) Modification of cell function with liposomes in vivo*

G Gregoriadis – B Ryman

Control of fate and behaviour of liposomes in vivo *(G Gregoriadis)*; Liposome-mediated gene transfer in vivo *(C Nicolau)*; Modification of host defence functions by liposomal immunomodulators *(G Poste)*; Liposomes as immunological adjuvants in vaccines *(N van Rooijen)*; Liposomes: applications in medicine *(B Ryman)*; Antimicrobial therapy with liposomal drugs *(A Trouet)*.

*b) The use of liposomes for studying and modifying cellular functions*

H McConnell – D Papahadjopoulos

Delivery of macrophage-augmenting factors in relation to tumor metastasis *(I Fidler)*; Targeting of liposomes to specific cells *(T Heath)*; Mechanism of Semliki Forest virus fusion *(A Helenius)*; Implantation of foreign membrane proteins *(A Loyter)*; Model systems for cell recognition *(H McConnell)*; Delivery and expression of foreign DNA in eukaryotic cells *(D Papahadjopoulos)*.

*S 11 Glycoconjugates of Cell Membranes*

G M Levis – R D Marshall – C P Tsiganos

Expression of glycoproteins on membranes of human tumor cells *(M C Click)*; Cell surface glycosphingolipids and their function *(D Critchley)*; Glycoproteins in relation to cell differentiation and malignancy *(M Crumpton)*; Homologues of tunicamycin: effect on glycoconjugate synthesis and cytotoxicity against transformed cells *(D Duksin)*; Structure diversity of proteoglycans; changes in differentiation and development *(T Hardingham)*; Structure and function of cell surface associated heparan sulphate *(M Höök)*; Biosynthesis of glycoconjugates and its control *(P Louisot)*; Regulation of glycolipid metabolism in normal and virus transformed cells *(C Sweeley)*; ... *(C Tsiganos)*; Glycolipid–protein interaction with regard to components of cell plasma membranes *(H Wiegandt)*.

*S 12 Enzyme–Protein Structure, Function and Mechanism*

B Clark – A Evangelopoulos

... *(M Perutz)*; Structure and function of elongation factor-Tu *(B Clark)*; Probing of protein microenvironment by spectroscopic techniques *(A Evangelopoulos)*; $Ca^{2+}$ binding sites in enzymes and proteins *(P Fasella)*; Activation of phosphorylase kinase by $Ca^{2+}$, a comparison of $Mg^{2+}$ or $Ca^{2+}$ binding to isolated calmodulin or calmodulin integrated into phosphorylase kinase *(L Heilmeyer)*; Role of pyridoxal phosphate in the catalysis of glycogen phosphorylases *(E Helmreich)*; Apoenzyme–coenzyme interactions: accessible surface area and the role of hydrophobicity *(J Janin)*; Structure–activity relationships in insulin *(P Katsoyiannis)*; Structure and function of acid phosphatases *(P Mildner)*; Structure and function of cellulase enzymes *(T Nikolov)*; Aspartate aminotransferase from chicken heart cytosol: some aspects of structure and catalytic mechanism *(Yu Torchinsky)*; Aspartic proteinases and their activation *(V Turk)*; NMR studies of structure and function of enzymes and proteins *(K Wüthrich)*.

*S 13 Enzymes of Nucleic Acid Metabolism in Cell Function and Differentiation*

J Georgatsos – D Shugar

DNA-polymerases of eukaryotes and lower organisms *(U Bertazzoni)*; ... *(J Georgatsos)*; Isolation and analysis of active transcription complexes *(A Hadjiolov)*; DNA-unwinding enzymes *(H Hoffman-Berling)*; Interferon-induced enzymes *(I Kerr)*; Repair enzymes *(T Lindahl)*; Enzymes of DNA-repair processes and genetic stability *(M Radman)*; DNA-processing enzymes *(H Robertson)*; Virus-associated and induced enzymes *(D Shugar)*.

*S 14 Regulatory Mechanisms Mediated by Protein Phosphorylation–Dephosphorylation Processes*

E Krebs – A Trakatellis

Hormone sensitive lipase *(P Belfrage)*; ... *(P Cohen)*; Myosin light chain kinase *(J Demaille)*; The cyclic AMP-dependent phosphorylation of pyruvate kinase as a model in the study of regulation and turnover of phosphorylatable proteins *(L Engström)*; Fatty acid synthesis *(G Hardie)*; The role of protein phosphorylation in the regulation of eukaryotic protein synthesis *(T Hunt)*; HMG-CoA reductase *(T Ingebritsen)*; Protein kinases *(E Krebs)*; Cyclic AMP independent protein kinases *(L Pinna)*; Regulation of pyruvate and branched-chain 2-oxoacid dehydrogenase complexes by phosphorylation–dephosphorylation *(P Randle)*; Cyclic AMP-dependent protein kinases *(S Shaltiel)*; Role of cyclic AMP in the regulation of genome expression of eukaryotes *(E Severin)*; ... *(A Trakatellis)*; The ATP-Mg-dependent regulation of a multi-substrate protein phosphatase from rabbit skeletal muscle *(J Vandenheede)*; Studies on regulation and cellular localization of cyclic AMP and cyclic GMP dependent protein kinases *(U Walter)*.

*S 15 Metabolic Regulation of Amino Acids, Ketone Bodies and Glucose in Various Tissues*

P Felig – G Palaiologos

... *(T Berezov)*; Calcium and cyclic AMP dependent regulation of metabolism *(J Demaille)*; Short term regulation of the conversion of glucose into fat by insulin and other hormones *(R Denton)*; Interaction of insulin and counter-regulatory hormones in blood glucose regulation in normal and diabetic subjects *(P Felig)*; Insulin and the regulation of enzyme synthesis *(R Hanson)*; Post-insulin receptor abnormalities in insulin resistance: attempt at synthesis *(B Jeanrenaud)*; Reflections on the metabolic actions of hormones *(E Newsholme)*; Some aspects on amino acid metabolism in relation to glucose and ketone bodies and their regulation in brain *(G Palaiologos)*; Lipid fuels and protein conservation *(N Ruderman)*; The hepato-muscular metabolic axis and gluconeogenesis *(K Snell)*; Regulation of gluconeogenesis by hormones in hepatocytes and in cell free systems of rat liver *(P Walter)*; Aspects of the hepatic transport and metabolism of branch chain α-ketoacids *(A Wojtczak)*.

*S 16 Interactions of Cells with Their Proximal Environment*

M Burger – E Canellakis

Model macromolecules for cell recognition *(M Burger)*; ... *(E Canellakis)*; Junctional cell-to-cell communication *(W Loewenstein)*; Neuronal–glial interaction *(M Raff)*; Structure of gap junctions *(P Unwin)*; Interactions between cell surface and extracellular matrix molecules *(A Vaheri)*.

## POSTER SESSIONS

Poster sessions will be organized to complement the symposia. Some posters will be selected by the chairmen for discussion during the relevant symposium.

The deadline for receipt of abstracts is *31 January 1982*.

## PLENARY SESSIONS

The Special Meeting will be opened at a Plenary Session at the Athens Hilton Hotel in the evening of Sunday 25 April. At this Plenary Session the 13th Sir Hans Krebs Lecture will be given by Dr François Jacob of the Institut Pasteur, Paris, on the subject "Mouse Teratocarcinoma and Embryogenesis".

The second Plenary Session will be held at the same place in the evening of Thursday 29 April.

## REGISTRATION FEES and ACCOMMODATION

| | Early Registration *before 31.12.1981* | Late Registration *after 1.1.1982* |
|---|---|---|
| Active Member | US $ 160 | US $ 210 |
| Active Member (under 30 years of age) | US $ 70 | US $ 90 |
| Accompanying person | US $ 70 | US $ 90 |

The deadline for payment of the accommodation fee is *15 January 1982.*

Payment of registration and accommodation fees may be made by bank cheque payable to the Special FEBS Meeting and mailed to the Secretariat, or by bank transfer to Account Nr: 040/15/937919, National Bank of Greece, 86, Aiolou Str., Athens, Greece. Please note that personal cheques can not be accepted.

## CORRESPONDENCE

The Second Announcement, with registration, accommodation and abstract forms, is available from the Meeting Secretariat:

The Special FEBS Meeting
Nuclear Research Center Demokritos
Department of Biology
Aghia Paraskevi
Attikis, Greece

Cables: GREEKATOM - FEBS
Telephone: (01) 651-3111, Ext: 527
Telex: 21.6199

## SATELLITE MEETINGS

Satellite meetings will be held on topics complementary to the programme of the Special FEBS Meeting, and will provide opportunities for the participants to attend smaller and more specialized meetings.

"Autonomy and Biogenesis of Mitochondria and Chloroplast"
*30 April - 4 May 1982*
For information, contact: Dr G Akoyunoglou, Department of Biology, Nuclear Research Center Demokritos, Aghia Paraskevi, Attikis, Greece.

"The Silkworm, a Model System for Development and Differentiation"
For information, contact: Dr Jean-Pierre Garel, Département de Biologie Générale et Appliquée, Université Claude Bernard Lyon - 1, 43, Bd du 11 Novembre 1918, F-69622 Villeurbanne Cedex, France.

"Electrophoresis 82: International Conference on Electrophoresis and Related Fields. Annual Meeting of the Electrophoresis Society"
*Athens, Greece, 21-24 April 1982*
For information, contact: Dr D Stathakos, Department of Biology, Nuclear Research Center Democritos, Aghia Paraskevi, Attikis, Greece.

Arrangements for additional satellite meetings can be made through the Special FEBS Meeting Secretariat.